

WHAT IS CLAIMED IS:

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1. A heating and air-conditioning system for a motor vehicle, comprising:

- (a) a conditioning housing;
- (b) a first heat exchanger operably integrated within said conditioning housing;
- (c) a plurality of air outlet openings in said conditioning housing for guiding air to front interior zones of a motor vehicle;
- (d) a connecting section on the outside of said conditioning housing;
- (e) an air outlet opening through said connecting section; and selection either
  - (f) means for selectively attaching to said connecting
    - (i) a releasable cover for covering, in a tight, leak-proof manner, said air outlet opening through said connecting section; or
    - (ii) a rear temperature control unit attached in a tight/leak-proof manner to said connecting section and in fluid communication with said conditioning housing via said air outlet opening through said connecting section.

- 2. A heating and air-conditioning system as claimed in claim 1, wherein said motor vehicle further comprises rear interior zones.
- 3. A heating and air-conditioning system as claimed in claim 2, wherein the system comprises said rear temperature control unit attached to said connecting section.
- 4. A heating and air-conditioning system as claimed in claim 3, wherein said rear temperature control unit comprises an air guiding

arrangement leading from said conditioning housing to said rear interior zones.

5. A heating and air-conditioning system as claimed in claim 1, wherein said rear temperature control unit comprises an additional housing.

6. A heating and air-conditioning system as claimed in claim 5, wherein said additional housing comprises an air control element.

7. A heating and air-conditioning system as claimed in claim 5, wherein said additional housing comprises a second heat exchanger operably integrated therein.

8. A heating and air-conditioning system as claimed in claim 5, wherein said additional housing comprises both an air control element and a second heat exchanger operably integrated therein.

9. A heating and air-conditioning system as claimed in claim 1, further comprising a partition separating said first heat exchanger into a left portion and a right portion.

10. A heating and air-conditioning system as claimed in claim 7, further comprising a partition separating said first and second heat exchangers into respective left portions and a right portions.

11. A heating and air-conditioning system as claimed in claim 1, wherein said connecting section is substantially larger than said air outlet opening.

12. A heating and air-conditioning system as claimed in claim 5,  
wherein said additional housing comprises an open housing section  
capable of tight, leak-proof attachment to said connecting section  
of said conditioning housing.
13. A heating and air-conditioning system as claimed in claim 3,  
wherein said attaching means comprises flange members  
corresponding to each other and capable of fitting together on each  
of said connecting section and said rear temperature control unit.
14. A heating and air-conditioning system as claimed in claim 1, further  
comprising a plurality of electrically activated PTC elements  
integrated in said first heat exchanger for water side temperature  
regulation.
15. A heating and air-conditioning system as claimed in claim 1, further  
comprising air flaps for regulating the flow of air through said first  
heat exchanger.
16. A heating and air-conditioning system as claimed in claim 1,  
wherein said attaching means comprises a profiled flange  
arrangement on said connecting section for cooperating with  
mating flange arrangements on said removable cover and on said  
rear temperature control unit.
17. A motor vehicle comprising a heating and air-conditioning system  
according to claim 1.

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unit
18. A conditioning housing for a heating and air-conditioning system that can be adapted to produce either a two-zone, three-zone or four zone system, comprising:
- (a) a heat exchanger operably integrated within said conditioning housing;
  - (b) a connecting section on the outside of said conditioning housing;
  - (c) an air outlet opening through said connecting section; and either
  - (d) means for selectively attaching to said connecting section
    - (i) a releasable cover for covering, in a tight, leak-proof manner, said air outlet opening through said connecting section; or
    - (ii) a rear temperature control unit attached in a tight/leak-proof manner to said connecting section and in fluid communication with said conditioning housing via said air outlet opening through said connecting section.
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